

Claims

1. Method for storing data as bit cells in a prerecorded area of an optical recording medium using pits (6) and lands (7), whereby the pits (6) and lands (7) are placed out of the center of a track of the prerecorded area, **characterized in that** the method comprises the step of arranging the pits (6) and lands (7) adjacent to bit cell signal transitions (1, 2, 3, 4) in a predefined manner.
2. Method according to claim 1, **characterized in that** the pits (6) and lands (7) are arranged in a fixed recurring sequence of pit lengths and land lengths at the bit cell signal transitions (1, 2, 3, 4).
3. Method according to claim 1, **characterized in that** the pits (6) are arranged symmetrically to the bit cell signal transitions (1, 2, 3, 4).
4. Method according to claim 3, **further comprising** the step of arranging the lands (7) adjacent to the pits (6) symmetrically to the bit cell signal transitions (1, 2, 3, 4).
5. Method according to anyone of the preceding claims, **further comprising** the step of placing an identical number of pits (6) and lands (7) in each bit cell.
6. Method according to anyone of the preceding claims, **further comprising** the step of setting the lengths of the pits (6) and lands (7) to integer multiples of a predefined length based on a nominal channel clock (T) and a nominal rotational speed of the recording medium.

7. Method according to anyone of the preceding claims,
further comprising the step of inserting a gap 8 at the
bit cell signal transitions (1, 2, 3, 4).
- 5 8. Method according to anyone of claims 1-7, **further**
comprising the step of arranging pits (6), which are
long compared with the diameter of a readout spot, near
the bit cell signal transitions (1, 2, 3, 4).
- 10 9. Method according to claim 8, **further comprising** the
step of arranging lands (7), which are short compared
with the diameter of the readout spot, within the bit
cell.
- 15 10. Method according to anyone of claims 1-7, **further**
comprising the step of arranging pits (6) with a length
corresponding to the full width at half maximum of the
intensity distribution of the readout spot near the bit
cell signal transitions (1, 2, 3, 4).
- 20 11. Method according to anyone of claims 8-10, **further**
comprising the step of arranging pits (6), which are
short compared with the diameter of a readout spot,
within the bit cell.
- 25 12. Method according to anyone of the preceding claims,
further comprising the step of varying the distance
between the track center (10) and the pits (6) and
lands (7).
- 30 13. Method according to anyone of the preceding claims,
further comprising the step of varying the width of the
pits (6).
- 35 14. Method according to anyone of the preceding claims,
characterized in that the average of a modulation

signal containing the stored data is zero for bit cells representing a digital '1' and zero for two consecutive bit cells representing a digital '0'.

- 5 15. Optical recording medium, **characterized in that** it comprises at least one prerecorded area in which data is stored according to a method according to anyone of claims 1-14.
- 10 16. Apparatus for reading from optical recording media, **characterized in that** it comprises means for retrieving data stored in at least one prerecorded area of an optical recording medium according to a method according to anyone of claims 1-14.
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17. Apparatus for writing to optical recording media, **characterized in that** it comprises means for writing data to optical recording media according to a method according to anyone of claims 1-14.